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1950

SKISH—Fishing's Answer to Skeet—pages 14-15

Volume XI
Number 8



Photo by Kesteloo

Gee, Thanks, Warden!

VIRGINIA WILDLIFE

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A Monthly Magazine for Higher Standards of Outdoor Recreation Through Wildlife Conservation

COMMONWEALTH OF VIRGINIA



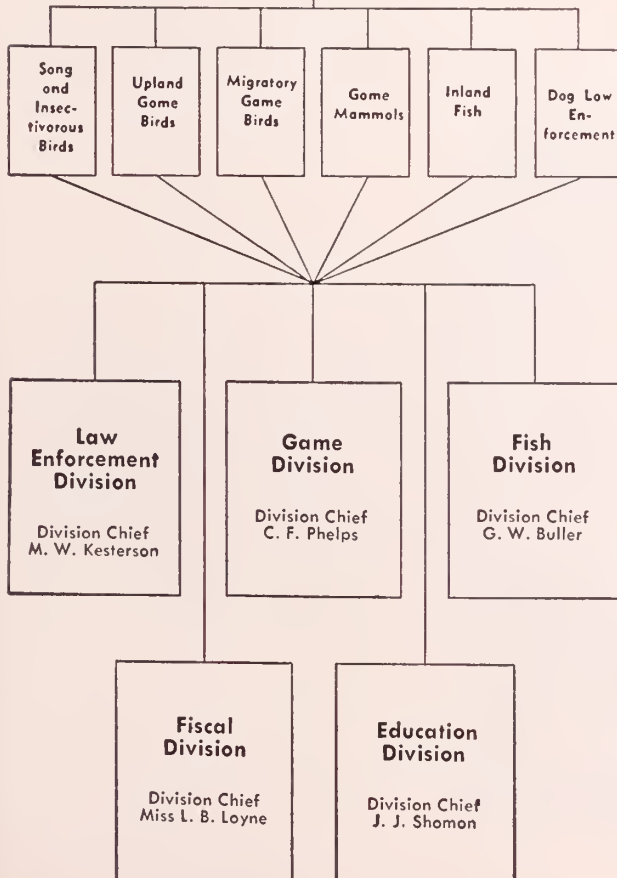
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In This Issue

	Page
Planning for Progress, Part I.	4
Spinning	8
Game Warden—Guardian of Wildlife.	10
Skish, Fishing's Answer to Skeet.	14-15
What Is Wildlife Management?	16
Rabies	18
Field Force Notes	23
The Drumming Log	25
School Page	26
Lake Gordon	27

Cover Photo

Lean and hungry, *Esox niger*, the chain pickerel, is the torpedo of the freshwater fish world. Most Virginians call him "pike."

N. Y. Zoological Society Photo

VIRGINIA WILDLIFE gratefully receives for consideration all news items, articles, photographs, sketches and other materials which deal with the use, management and study of Virginia's interrelated, renewable natural resources:

WILDLIFE

SOILS — CONSERVE — WATER

FORESTS

Since wildlife is a beneficiary of the work done by State and Federal land-use agencies in Virginia, editorial policy provides for recognition of their accomplishments and solicitation of their contributions. Credit is given on material published. Permission to reprint is granted provided proper credit is given.

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J. J. SHOMON—Editor

R. T. SOEERS—Associate Editor

PLANNING FOR PROGRESS

By TED FEARNOW



Photo by Crawford

Virginia's National Forests. Largest public hunting grounds East of the Mississippi!

A Report from the Field Conference to Formulate a Plan for the Third Five-Year Development Program for Virginia's Cooperative Hunting and Fishing Area

PART I

MORE THAN TEN YEARS AGO, a far-seeing group of Virginia conservationists devised the novel program under which the Commission of Game and Inland Fisheries, the U. S. Forest Service and organized sportsmen joined forces to develop two large areas of publicly owned land, the Jefferson and George Washington National Forests, as public hunting and fishing grounds. Under specific authorization from the Virginia Assembly, the Commission of Game and Inland Fisheries entered into an agreement with the Forest Service for joint action to restore and protect wildlife and to develop these National Forests as productive units of wildlife habitat. So successful has this effort been that it has attracted nation-wide attention of sportsmen and wildlife administrators to what has come to be known as "The Virginia Plan."

When representatives of the Commission and U. S. Forest Service prepared the first cooperative five-year program it was, in effect, a schedule setting up definite jobs with priorities for accomplishment. Under this initial plan resident wildlife managers were assigned to National Forest areas

ranging from 5,000 to more than 20,000 acres each. These men brought to the cooperative area a type of management and care similar to that provided by game keepers on private hunting preserves. Under the direct supervision of these resident managers, deer, turkey and other game were released and carefully protected. Some of the wildlife managers moved into simple cabins far back in the mountains in order to be available day or night for protection work. When the first five-year program was completed, plans were revised and a second five-year program which covered further restocking, law enforcement, improvement of food and cover for game, and other objectives was set up to serve as a guide. Goals which originally seemed almost impossible of accomplishment under this program have been reached and even exceeded through persistent and methodical effort. When the planning conference of personnel from the Virginia Commission of Game and Inland Fisheries and the U. S. Forest Service was held at Harrisonburg in January of this year, to consider the third five-year development

RECENTLY A SIGNIFICANT meeting of biologists, foresters and game law enforcement officers was held at the headquarters of the George Washington National Forest in Harrisonburg, Virginia. The men taking part in this conference, representing both the state and federal interests, provided a background of specialized training and experience in the various phases of natural resource management, all focused on a common goal: that of restoring and maintaining wildlife populations as an integral part of a thrifty and productive forest environment. This type of long range planning, based on multiple use land management, is something new in the field of wildlife management and Virginia has been a pioneer in its development.

program, an air of confidence pervaded the meeting; confidence which stems from previous successful experience in setting difficult goals and reaching them on schedule.

Recognizing that wildlife is, in the final analyses, a product of environment, improvement of food and cover conditions has been given high priority under the forest game program. The development of a publicly owned hunting and fishing area of 1½ million acres in Virginia offers a real challenge to land and wildlife managers who are now in a position to look upon game and fish as crops to be produced for public use. Under the cooperative program, approximately 25 resident wildlife managers are now assigned to the two National Forest areas in Virginia for restoration and protection of game and fish and for development of better food and cover to support the wildlife resource.

Looking ahead to a future when the hunting

public of Virginia may be even larger than that of today, it was agreed that intensive development of wildlife habitat for maximum production of game and fish should be attempted on an experimental basis to determine the practical limitations in this field. On experimental areas, use of commercial fertilizers to improve both the quality and quantity of forage for wildlife will be undertaken. As an example, it is believed that the addition of "trace elements" lacking in certain soils may help to support more and better plants and animals. In establishing permanent food and cover for wildlife on intensively developed areas, use of ladino clover, fescue, orchard grass, and other perennial grasses will be stepped up in an effort to provide better year-round forage for game. Dense ground cover of this type will help to block encroachment of trees and shrubs on openings created for game and also aid in preserving large amounts of forest edge as a permanent adjunct to wildlife food production. Plants, through their ability to convert mineral elements into palatable food, are the key to meeting food requirements of both man and beast.

Strict game and fish law enforcement is necessary to insure that gains made through improved habitat will not be offset by illegal and destructive practices. Law enforcement has made great strides in Virginia due to intensified efforts of county game wardens, resident wildlife managers and conservation officers. In spite of this improvement the group directing wildlife work on the National Forests was forced to recognize that the cooperative program must continue to provide assistance for protection of the wildlife resource from poachers.

State and forest personnel look over forest area maps as they plan for future wildlife developments. The Virginia plan calls for integrated effort by the State and Federal men.



Photo by Kesteloo

It is unfortunate that the difficult job of producing more game for sportsmen should be further impeded by the fact that so much of available revenue and manpower must be expended to control the small minority who refuse to play fair in the matter of law observance. In shaping the new five-year program, new emphasis was placed upon closer cooperation between resident wildlife managers, county wardens, and conservation officers as a means toward forging a stronger law enforcement organization. The ultimate answer to game law enforcement problems is the development of a code of hunter ethics that will rule out all malicious violations. Only with the full cooperation of sportsmen can the American system of free hunting for all be perpetuated.

The George Washington and Jefferson National Forests are located along the backbone of the Allegheny Mountains extending southwestward from a point near Winchester, Virginia to the Tennessee-Kentucky borders. These Virginia highlands are the source of many famous fishing streams. Because of their relatively high elevation, most of them are trout waters. Past neglect in the form of forest fires, soil erosion and overcutting of timber, prior to federal ownership, has caused many of these streams to lose much of their former attractiveness as trout habitat. Much interest was shown in plans for stream improvement on these waters. The Forest Service has an important job in coordinated land management which of itself can help greatly in restoring streams. Improvement of watershed conditions by fire prevention and better forest management practices, retention of streamside shade and cover and other land management measures have already helped greatly. Some stream improvement devices, principally low log dams, have been installed on trout waters to create deep pools that are attractive to fish. Wildlife managers will be responsible for maintaining these structures, as it is felt that they may have a high value in demonstrating the best construction techniques for use when and if a more extensive job of fish stream improvement can be launched.

Wildlife administrators at the Harrisonburg planning conference reported that the growing pressure of fishing on the two National Forests is becoming more and more difficult to meet adequately. The group agreed that a few small water impoundments to provide fish ponds should be developed as experiments under the cooperative program as soon as finances will permit. Such ponds would of necessity be confined to sites which can be developed at low cost and it is planned that resident wildlife managers will undertake systematic

fertilization such as is currently used in farm pond management. Under this type of management, ponds often yield 100 pounds or more of fish annually per acre. The existence of a well distributed system of public fishing ponds, managed to produce an annual crop of fish for anglers, would undoubtedly provide an important recreational asset. Such impoundments also have a supplemental value in the food and cover they provide for game along their moist shore lines.

Field biologists assigned by the Commission of Game and Inland Fisheries to the cooperative wildlife program have contributed greatly to the success of wildlife habitat improvement. Working closely with Forest Service rangers, these biologists are able to offer advice and suggestions covering wildlife needs and the influence of various forest management practices which have far-reaching effects in developing and maintaining food and cover for game. The cost of maintaining forest areas at a high level of productivity for wildlife is much too great to be borne by hunting license revenue alone and a growing reliance is being placed upon coordination to provide conditions favorable to both wildlife and timber. In charting wildlife habitat improvement operations on the Virginia

Clearings are cut in forested areas as an aid to wildlife. Dense stands of timber hold little game.

Photo by Kesteloo





Photo by Kesteloo

Game foods such as thorn apple, wild raisin or multiflora rose are planted for wildlife use.

National Forests for the next five-year period, four major categories of desirable activity have been recognized. (1) Creation of openings, usually clearings of one acre or less in young timber of pole-size where the probability of thinning by timber sales is remote. By permitting sunlight to reach the ground in these clearings, grasses and shrubs of high value to wildlife are encouraged. (2) Work in timber stands of mixed age classes to retain existing openings and edges. (3) Follow up work on timber sale areas where timber has been recently cut, to select and develop clearings, trails, etc. for retention as permanent wildlife habitat improvements. This job includes releasing native shrubs of value for game food production. In some cases game food species such as thorn apple, wild raisin, or multiflora rose may be introduced on selected sites. (4) Planting of groups of conifers in hardwood timber stands to provide shelter and escape cover for wildlife. Long range planning to provide for development and maintenance of wildlife habitat on a systematic basis represents a real advance in the field of multiple purpose forest management. The ultimate goal under the pro-

gram is to provide forest conditions that will result in high productivity for both timber and wildlife.

In bringing about closer coordination between forest and wildlife management, arrangements have been made to utilize Forest Service guards on a part-time basis to extend the District Ranger's participation in habitat development work. These Forest Service employees will be particularly helpful in delivering supplies and materials to wildlife managers located in remote areas, marking small areas for clear cutting under fuelwood or other timber sale procedures to provide openings for game and to help in scouting undeveloped forest areas for planning new improvements. Close liaison of this type between wildlife and forestry workers has been an important factor in advancing habitat development work under the cooperative agreement.

Directors of the cooperative program were quick to recognize the importance of research as a means for keeping wildlife management and habitat development work on a sound basis. All participants agreed that the cooperative research unit at Blacksburg, under the guidance of Dr. Henry Mosby, offers the best facilities available for assistance in this field. Various problems were discussed at the conference including the use of fertilizers, introduction of shrubs and grasses of special value for wildlife and other details of this nature. The possibility that game food production might be stimulated by use of fertilizers is one that appears to deserve close study, particularly on eastern national forests where hunting pressure for both big game and small game has reached peak levels. Arrangements were made for Forest Service representatives along with state game technicians to meet with Dr. Mosby at Blacksburg for a general discussion of research problems and to enlist the assistance of the cooperative wildlife unit in establishing study areas on the National Forests to provide answers to some of these important questions.

As a result of progress over the past ten years, game stocking has been relegated to a position of minor importance in planning the next five years work. Some blank spots still exist in National Forest deer populations and the group favored trapping of does from forest areas which are showing signs of overpopulation, for transfer to blank areas. Limited success has been had in this field already and it was pointed out that the trapping of a doe shortly after the breeding season frequently has the effect of providing as many as three deer for restocking purposes.

(This article will be concluded in the September issue of *Virginia Wildlife*)

Spinning

An Increasingly Popular Type of Sport Fishing

By LEON G. KESTELOO

Chief, Audio-Visual Section, Education Division

SELDOM HAS AN innovation in fishing circles caused so much discussion and controversy as the introduction of spinning. While extravagant claims have been made by some fishermen and manufacturers, equally as vehement denunciations have come from others. One group will claim that spinning will replace fly and plug casting, another that it is a passing fad. While spinning is undoubtedly more effective at times, a spinning outfit should actually be considered a supplement to other types of fishing and not an infallible cure-all.

Those of the older generation who have spent a lifetime perfecting their own particular style of fly or bait casting technique usually look with disdain upon spinning, which to them is a radical departure from *the* traditional method of fishing. For those who consider a 20 pound test line essential to "horsing in" a 3 pound bass in the quickest possible time, spinning will hold no inducement.

The ultimate thrill of fishing is the feel of the strike and the play of the fish on the line. Once in a boat, what good is a fish but for a meal? Delicious though it may be, this is not the goal that makes men get out of a warm bed at three or four in the morning and spend millions of dollars annually for tackle, transportation, and miscellaneous items. For those who thrill to the leap and play of a fighting fish, spinning will increase and prolong those thrills.

Though comparatively new in this country, spinning is rapidly gaining in popularity as evidenced by the appearance of the many types of spinning reels, lines, and lures in the sporting goods stores in the last two years.

Originating in England about 1910, spinning soon became popular and spread to the continent. According to J. B. Bates, author of "Spinning for American Game Fish," the spinning rod has practically supplanted the bait casting rod in Switzerland. So effective is it considered in England that spinning is prohibited on many streams.

The lack of friction in casting with a spinning reel is the major factor which enables the caster to make extremely long casts with tiny lures. With most of our waters being overfished, the fish are becoming more wary. Long casting with a tiny lure and

a near invisible line might well be the answer to a successful day.

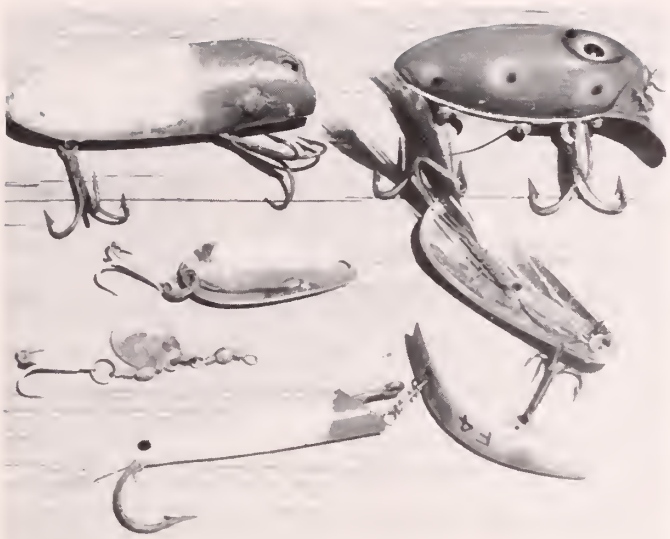
At first, the position of the spinning reel, suspended beneath the rod butt with the handle on the left side, may appear to be awkward and hard to manipulate. A few minutes of experimenting will usually convince one that this position is the most natural one. No changing of hands is necessary after the cast. The right hand of a right-handed person is usually the most responsive so why not fight the fish with that hand?

The spool of the spinning reel does not revolve, consequently it is impossible to have a backlash, the bugaboo of all casters. The center of the spinning reel spool is in a parallel line with the rod rather than at a right angle as in the conventional reel. In casting, the line slips over the lip of the spool without the resistance that would be caused by a revolving spool. The cast may be stopped by extending

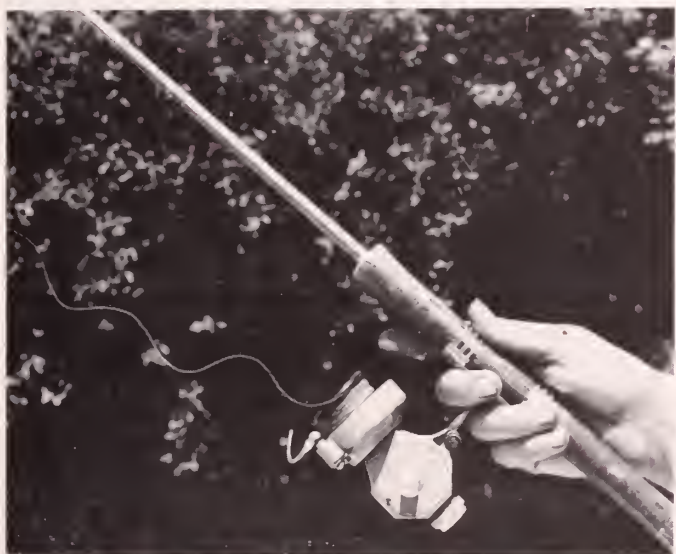
All set for a big one. The author tries his spinning outfit on a Virginia stream.

Photo by E. H. Kesteloo





Some of the lures handled by the spinning rod. In addition, weighted flies may be cast.



Photos by author

When a cast is made, the line slips over the lip of the spool with practically no friction.

the index finger over the lip of the spool or by engaging the pick-up finger by advancing the reel handle.

The pick-up finger is a curved metal arm which guides the line to a roller which revolves around the spool. The spool moves in an up and down motion so as to evenly distribute the line.

To cast, the pick-up finger is moved out of the way by pressing a small knob at the side of the reel.

The line is held to the butt of the rod by the index finger. The cast may be made in the conventional manner and the index finger is released at the proper moment as in bait casting. The spinning reel has a drag adjustment which allows a heavy fish to pull the line from the spool. This is the only time the spool revolves. The most satisfactory tension adjustment is slightly below the breaking strength of the line.

In the purchase of a reel, the most important factors in determining your choice are sturdy construction, a roller on the pick-up finger to eliminate wear on the line, and a minimum of removable parts such as nuts and washers which may be lost when changing spools.

The lines, either braided nylon or monofilament, are extremely fine, cause little friction on the guides and are almost invisible in the water. They run from 3 pound to 8 pound test. This may cause some skepticism as to how a large fish can be landed on a line as light as this. Quite recently a salmon of over 50 pounds was landed on a spinning outfit with a 6 pound test line. If the drag on a spinning reel is properly adjusted, it allows a heavy fish to strip the line from the spools, much the same as the action of a star drag salt water reel. Most spinning reels have removable spools so that it is possible to carry a spare of heavier or lighter line for different occasions.

The rod, 6 to 7½ feet long and weighing between 4 and 6 ounces, is slightly stiffer than a fly rod. In fact, it makes quite an acceptable fly rod so just slip your fly reel in your pocket in case you want a change. The guide nearest the reel is quite large, about ¾ of an inch. This controls the vibration of the line with a minimum of friction.

Though bamboo is probably the favorite material for a spinning rod, extremely good glass rods are now making their appearance. Personally, I do not care for the action of the steel rods.

The lures used run from 1/20 of an ounce to 3/8 of an ounce, weights that are usually too light for a casting rod and too heavy for a fly rod. They may be spinners, plugs, weighted streamer flies, and minnows. Those who fish with minnows will find that one hooked through the lips and tail so that it revolves when retrieved, is a deadly bait for pickerel and a mighty effective one for smallmouths. It is well to point out here that the hooks on all lures should be kept needle sharp so that a minimum strain is put on the line when setting the hook.

In fishing a large river where strong currents make wading impractical, many good holes can be reached with a spinning rig that would have to be passed up by the plug or fly caster. Often the smallmouths of a river will take only the smallest of spinners and streamer flies. A small spinner with the additional weight of one or two split shot on the leader or a weighted streamer fly can reach many of those otherwise inaccessible spots.

Fishing from a brush lined shore where it is impossible to use a fly or bait casting rod can be quite effective if done properly with a spinning rod. If

(Continued on page 12)



Guardian of Wildlife

By M. WHEELER KESTERSON
Chief, Law Enforcement Division

WANTED—combination public relations man, lawyer, policeman, psychologist, game manager, forester, salesman, accountant, and educator. Must have executive ability. Able to organize and develop own work throughout large area. Will not be required to work more than twenty-four hours in any one day. Pay, short on actual cash but long in satisfaction of a good job well done.

Sounds fantastic, doesn't it?

And yet that's the type of want ad we'd have to run if we hired our Virginia game wardens in that way. Let's just run down the list and see why the game warden is a jack-of-all-trades.

As a public relations man, he is the Game Commission's representative to the public at large. He must be courteous, patient, neat appearing and a veritable walking mine of information on everything from the latest interpretation of the General Code to the basic principles of game management.

He must have enough working knowledge of the law to bring a case into court with sufficient evidence to convict the violator, and he must know how to present that evidence in the proper way.

As a policeman, of course he is the enforcer of the game laws, and as a psychologist, well, his job actually calls for a deeper basic understanding of people and of human nature than almost any other law enforcement position. Most law enforcement officers have a fairly clear cut division between the people they deal with, i.e. the criminal classes, and the rest of the population. In game law work, however, this doesn't hold true. The very man who might be a pillar of the church at home, a decent, self respecting, law-abiding citizen to his neighbors, all too often may be a violator of the hunting and fishing laws.

Because of this, the game warden^{*} must learn to judge each case individually, must become a shrewd enough student of human nature to be able to tell if a man really left his license home or if he never had one in the first place; must be able to differentiate between the genuinely embarrassed citizen who violates a law unknowingly (but must nevertheless be accountable for it) and the violator who pretends ignorance of the law in hopes of obtaining the warden's sympathy and a recommendation to the court for clemency in his case.

The warden has to be a game manager and a forester if he is going to be of maximum value in farm planting and habitat restoration, an immensely important phase of wildlife work. He must know his game and the type of cover and habitat suitable for each species and he must possess enough ability as a salesman to sell the program to the farmers and landowners of his county.

He must keep his accounts for mileage, and expenses incurred in the performance of his duties, and as these accounts are rigidly checked in the Richmond office, they must be carefully done and they must be right.

In the field of education the warden has an important job. Through sportmen's groups, civic clubs, church organizations, public schools, and youth movements such as the Boy and Girl Scouts, 4-H Clubs, F.F.A., and others, he must constantly try to bring about an increasing understanding and knowledge of wildlife as one of the basic natural resources. He must attend meetings of all these various groups and organizations, and must be able to speak to them and show them the importance and interdependence of all the natural resources. Since the major portion of these meetings are held



Photos by Kesteloo

Upper left: Checking licenses is just a small part of a warden's law enforcement work.

Upper right: Habitat restoration work with farmers is an important job for most of the wardens.

Lower left: Tomorrow's sportsmen need teaching today. The warden presents a wildlife lesson.

Lower right: Dog law enforcement is a major part of every game warden's work load.

in the evening, a normal home life is just a nostalgic dream to most wardens.

Executive ability? Well, game law enforcement is the business he's running in his county, and it's either good or bad enforcement in direct ratio to the manner in which the methods of work are organized and carried out by the man responsible. In most lines of endeavor a man is able to make out a schedule and simplify his procedure greatly because of it. But the very nature of a game warden's work prevents this. To be successful he must be exceedingly irregular in his coming and going, so that no would-be violator can be safely sure that the warden is some place else at the moment. It makes it hard for the law breakers, but it's not easy on the warden, either!

You can't enforce game laws on an eight hours a day basis, so that statement in the ad about not being required to work more than 24 hours in one day wasn't all joke! Maybe you can't work more

than 24 hours in one day, but plenty of wardens have put two or three of those 24-hour periods together in unceasing day and night vigils beside some illegally set fish trap, or a stream that was suffering from dynamiters, in hopes of catching the offenders.

And while I'm thinking of that, it reminds me—there's one other requirement for the job that I forgot to mention in the first paragraph. The game warden should be a philosopher too. Of course it isn't really necessary, but it certainly helps when a judge dismisses a case against a law breaker or releases him with a small fine after the warden has put in one of those long vigils in order to catch the violator and bring him into court!

There are several other qualifications that I could mention, such as small boat man, first aid specialist, to name a few, but you get the general idea, don't you? It would take a mighty talented man to answer that want ad! There's more to the warden's job than meets the eye!

SPINNING

(Continued from page 9)

a small opening is found, the rod may be extended through it and the lure suspended from the rod tip on a foot or two of line.

Then with a revolving motion of the rod, the lure describes a circle about the rod tip and when the proper momentum has been reached, the line is released and the lure travels parallel to the shore.

If you do connect, how you land that fish through the brush is your problem!

Not long ago, a friend and I were fishing a series of small crystal clear ponds. Most of the ponds were heavily lined with brush and extremely hard to fish from the shoreline. By noon, I had landed (and released) seven fair-sized bass as compared

to my friend's one small fish. This was by no means due to my fishing skill, but to the fact that I could reach those spots that were impossible to reach with a fly rod. Also I could cast the same bait much farther, which was important in such clear water where the fish were extremely wary.

One place where a spinning rod would not be practical is a lake containing stumps and weeds. There you would probably have to halt a run for a stump or weed patch and a three or six pound test line would not be up to the job with some fish.

Spinning is effective, but you still have to fish for your fish and, though you probably won't get your limit every time, you will get more fight out of your fish and more enjoyment out of your day when using light tackle.

Book Review

THE JAMES RIVER BASIN, Past, Present and Future. Compiled by the JAMES RIVER PROJECT COMMITTEE, the Virginia Academy of Science. 843 pp.; price \$6.00 postpaid. Published July 1, 1950.

This limited edition but monumental monograph bound in blue buckram with title and seals of the Academy and the State of Virginia in gold, depicts Conservation, Recreation, Education, Biological Sciences, Earth Sciences, Mathematical Sciences, Applied Sciences, Industry, and Transportation in the James River Basin. It represents a study of what is known about the past and present conditions and discusses problems that await initial study or require more detailed scrutiny in order to extend scientific, economic, and sociological knowledge of the region. It is written on a high plane of careful scientific research and contains factual material intelligible to the scientific, economic, sociological, and political leaders of the State of Virginia and others interested in regional development and progress.

Ten years of precedent-breaking work by scores of Virginia's scientists, educators, industrial and business leaders will be climaxed with the publication of the Virginia Academy of Science's monumental undertaking, "The James River Basin—Past, Present and Future."

This study of "the most romantic river of the nation" represents what is believed to be the greatest undertaking of its kind ever attempted by a state Academy of Science, in which field the Virginia group is recognized as one of the nation's leaders. The work is an attempt to present what is known about present conditions within the basin of the

James, and what brought about the development of these conditions.

An effort has been made to show what is the present status of natural resources, agriculture, public health, education, transportation, industry, and recreational facilities within the territory drained by the James River. In text and with nearly 100 maps and illustrations, the volume attempts to present the past and present status of the James River Basin as a human habitat, and wherever possible, to indicate practical means for improving this human habitat.

The work is dedicated to the originators of the idea Justus H. Cline, of Stuarts Draft, and Dr. Wortley F. Rudd, of Richmond, "whose inspiration and counsel made this volume possible," according to the dedication page.

Part I is devoted to conservation, recreation, and education. Part II pertains to the biological sciences—botany, plant pathology, entomology, mollusks, marine fishes and invertebrates, freshwater fishes, amphibia and reptiles, birds, mammals, and medical sciences. Part III concerns the earth sciences—agriculture, forests and forestry, and geology. Part IV is on the mathematical and applied sciences—astronomy and mathematics, physics, chemistry, and engineering. Part V covers highway transportation, and railroad transportation.

A limited edition of only 2,000 copies was printed. Copies are being offered at \$6.00 each postpaid by Foley F. Smith, Secretary, Virginia Academy of Science, P. O. Box 1395, Richmond 11, Virginia, or Dr. Marcellus H. Stow, Chairman, James River Project Committee, Virginia Academy of Science, Lexington, Virginia.

CONSERVATIONGRAM

Late Wildlife News . . . At A Glance

THE SOUTHEASTERN ASSOCIATION of Fish and Game Commissioners is scheduled to meet in Richmond on October 16, 17, and 18 and it is hoped that large numbers of Virginia sportsmen will mark the dates on their calendars and make a mental note to attend the sessions. The program will include both technical and general sessions and will have as speakers such prominent conservation officials as Dr. H. H. Bennett, chief of the U. S. Soil Conservation Service, and Lyle Watts, chief of the U. S. Forest Service.

A banquet will be held on the night of the 17th. Senator A. Willis Robertson of Virginia, who is considered the dean of the conservation forces in the U. S. Senate, will be the guest speaker.

CHESTER F. PHELPS, Chief of the Game Division of the Commission, will represent the Wildlife Society as chairman of the technical sessions at the 16th North American Wildlife Conference to be held in Milwaukee, March 5, 6, and 7, 1951. This Conference will bring together all interested individuals, groups, clubs and organizations who are engaged in wildlife work.

The Wildlife Society is the professional association composed of trained biologists and technicians in the wildlife conservation field. Mr. Phelps' appointment to represent the Society in this capacity at the Conference is considered a high honor.

WORK IS PROGRESSING nicely on the new smallmouth bass hatchery being built in Smyth County. This is being supervised by the Commission's own personnel and the cost of the entire modern hatchery will be nominal. When completed and put in operation next year it will double the output of smallmouth bass and other species now being produced at the Front Royal hatchery.

TWO 14-ACRE PONDS at the Stevensville hatchery are practically complete and will be in operation as holding ponds for brood stocks. These ponds will enable the hatchery to turn out a considerably increased number of largemouth bass, bream and crappie in future. The output should be increased from 25 to 30 per cent. These ponds, on land which was already owned by the Commission, were made possible by increased fishing license revenues.

EXTENSIVE PLANTINGS HAVE been made on the Hawfield tract of 2,764 acres in Orange County which is designed as the capstone of the system of demonstration areas throughout the State for the production of farm game, such as quail and rabbits, through habitat improvement. There are a few turkeys and some deer on the property.

Through use of bulldozers, approximately 600 acres have been opened up for agricultural use and extensive wheatfields were planted last Fall. Principal objective is to show that an ordinary farm, continuing in agricultural productivity, can be made to produce greatly increased populations of upland game by the simple process of providing more food and cover.

The property will be perpetually closed to hunting and no pen-raised birds and animals will be stocked. It is held that there are sufficient native brood stocks present to populate extended coverts as the food and cover is provided under modern methods of habitat improvement on agricultural land.

BIG NEWS IN the conservation field was the recent announcement that Dr. W. R. Eschmeyer, former chief of the fisheries section of the Tennessee Valley Authority, was appointed Executive Vice-President of the newly formed Sports Fishing Institute.

The new organization was incorporated last Fall by a group of prominent fishing tackle manufacturers for the purpose of improving sports fishing in this country. Dr. Eschmeyer's ability, practical experience and training should prove invaluable in guiding the institute in its future work.

WATERFOWL HUNTING regulations for the 1950-51 season will be issued about August 26 this year, a month later than usual according to Interior Secretary Oscar L. Chapman.

By issuing the regulations in August the Fish and Wildlife Service will have had more time to analyze the latest information from the flyway biologists on the northern breeding grounds. This last minute information is needed by the Service in making its recommendations.



On target! Casting like this takes practice!

Tournament aces and prizewinners all! L. to r. back row, John Newsome, B. C. Tutt, James Harden. Front row, l. to r., E. J. Cunningham, P. A. Nichols, Jay C. Reed, and Freeland M. Cook, Jr.



SKISH

Growing in popularity by leaps and bounds, the sport of skish is to the angler what skeet is to the gunning enthusiast, not only a means of keeping in practice during the off season, but a true sport in itself.

The Tidewater Anglers Club of Norfolk recently sponsored a skish tournament on beautiful Maury Lake at the Mariners Museum. Here, in pictures are some of the day's highlights.

Commission Photos by Kesteloo

It's a lot



Judges kept records, added points, and scored each contestant as the tournament progressed.



This is the way, Pop! The younger generation demonstrates some real casting form!



from the pier to that number 3 target, but bullseyes were scored on it by some of the sharpshooters.



Jay C. Reed shows his son the proper technique. Start 'em young and start 'em right is the motto of these Virginia sportsmen.

Jay C. Reed who held the State title for one day after dethroning Wm. Newsome (center) congratulates F. M. Cook, Jr., who took the crown from him.



What is Wildlife Management?

By JAMES E. THORNTON
Ass't. Chief, Game Division

THE WORDS "wildlife management" mean many things to many people. To some it means the stocking of large numbers of pen-raised birds or animals, mass-produced in a modern game farm, throughout large areas of land where the native game has become "depleted"; to others it means the planting of food and cover patches and field borders; and to still others it conveys vague, complicated impressions on the ways to game abundance. Actually, wildlife management or game management simply means the attempt to produce or to increase a specific game crop, and to harvest that increase or surplus each year on a common sense basis. In this respect, it is the same as managing any other agricultural crop.

Wildlife like most other "renewable" resources, is a product of the land, and like all living things, is dependent on the soil for its means of survival. On most farms in Virginia, game animals and birds are considered a by-product of the land in that they are produced as an incidental part of the farming operation. Normally, little effort is put forth to increase the value and numbers of this important by-product of the soil. Since the majority of Virginia farmers are "real dirt farmers" and engage in agriculture to make a living, it is obvious that the average landowner cannot afford to manage his land with the primary objective of producing game. It is, however, an important product of the farm, forest, stream, and marshland and is considered so by every thinking citizen in the Commonwealth. Wildlife management, then, is the intelligent answer to the proper production and use of this important resource which is becoming increasingly valuable to the farmer, the landowner, and the sportsman.

Wildlife management is concerned with two basic problems. These are the production or growing of wildlife and the harvesting and use of the surplus of each annual crop. Obviously, unless we are successful in producing a surplus we will not be concerned in harvesting or using that surplus. If we know how much wildlife is produced, we can then determine how much to harvest. If we know how to increase it, we should be better able to use that increase.

The production of wildlife is based on simple biological principles and no amount of man-made laws or legislation can change these principles. They are fixed and unchangeable, as sure as death and taxes. To work against these natural principles is to invite certain failure in our attempt to increase the production of wildlife on a given area of land.

Obviously, there must be sufficient birds or animals of a given species on an area to reproduce if that species is to increase in numbers. Fortunately, there are few places in Virginia where there is insufficient breeding stock of any species to produce a surplus if the factors holding down the population are removed. Another basic fact is that wildlife, like all other living things, if it is to thrive, must have food on which to live and home or place where it is reasonably safe from its enemies. It must be able to find a place to raise its young. In order for it to maintain itself and produce a "shootable surplus," food and cover must be present the year around, since wildlife, like all other living things, must eat at fairly regular intervals and have protection at all times if it is to survive. Only that wildlife which finds enough of the right kind of food and cover will live. The rest must either starve



Photo by H. S. Mosby

No cover—no game! An axiom of hunting is graphically illustrated here.

because they cannot find enough food, be killed because they cannot find a place to hide, or will vanish because they are unable to raise enough young to replace their loss.

These natural laws or principles largely determine the *carrying capacity* of a given piece of land at any given time. Carrying capacity has been defined as the number of quail, rabbits or other wildlife which any given area of land can support under given conditions. The primary factors limiting the carrying capacity of an area of land are the amount and quality of food, cover and water. These, in turn, are determined by the kind of soil and its fertility and the way in which the land is

used. Fertility has to do with the richness of the soil and the relative amounts of food elements, such as iron, calcium, nitrogen, and phosphorus in the soil that can be used by plants and, in turn, by animals. If there isn't enough of the food elements in the soil to grow good bones and teeth and to make good blood, the animals that live on that land, be they wild or domestic animals, will be few and unhealthy.

Poor land produces poor animals and in turn poor people, and everything else being equal, the richer the land the more wildlife is produced. The way in which land is used has a most important effect on the carrying capacity for wildlife also. Thus, a field which is kept grazed closely by cattle is capable of producing and holding very few quail as compared with a soybean field surrounded by good cover. Some of the other things which might limit the carrying capacity of a piece of land are weather, accidents, predators, disease, etc. By doing away with as many of the limiting factors as possible over which man has control, the carrying capacity of an area may be increased. Providing food and cover of the right kind along with its proper distribution, and minimizing such other limiting factors as is possible or practical provides the most reasonable approach to this problem of managing our game species.

Carrying capacity operates during all seasons of the year and especially during the winter months, through the same factors of food, cover, and water. The necessities of life grow scarcer and scarcer and become harder to find as the winter progresses, and consequently the number of birds becomes fewer and fewer in proportion so that in the spring the number of birds found on a given area is much less than was found on the same area at the beginning of the winter. Nothing is gained, then, by not hunting the birds, as hunting is simply a means of taking for a useful purpose some of the birds which could not survive the winter. Likewise, nothing would be gained in releasing five hundred quail in the fall of the year on an area of land which is only capable of carrying fifty birds through the winter, as all in excess of fifty birds would perish because of the lack of adequate food or cover.

The gain of a population on a given area is inversely proportionate to the population, and the factors causing mortality constantly act to keep an overflowing population within its means of subsistence. Thus, after the wildlife population of an area has been temporarily reduced to a low point because of a reduced carrying capacity during the winter months, the population usually builds up

(Continued on page 22)



Photo by Mullins

Good wildlife management includes habitat improvement work. Here a bicolor border is planted.



Good food and good cover equals good hunting! Game flourishes in an area like this.

RABIES—

*A public health problem
of increasing importance*

By J. ROBERT ANDERSON
*Director, Bureau of Health Education
Virginia State Department of Health*

"MAD DOG" shouted in a public street provokes a thrill of terror and conjures up visions of a wildly rushing, vicious beast with foaming mouth.

When the beast is killed or penned up, however, excitement soon dies down, and the disease called "rabies" is forgotten. Suggestions of vaccinating and confining or muzzling pets and eliminating strays often are met with indignant outcries from outraged dog lovers. Yet authorities have said that continuous muzzling of all dogs for two years or quarantine of all dogs for six months might eliminate rabies from the United States, as it has been eliminated in England and some of the northern European countries.

Rabies is passed directly from animal to animal, and may occur in all warm-blooded animals, including birds, but the great reservoir as shown in the table following is in the dog population.

KNOWN INCIDENCE OF RABIES

	Virginia 1949	Virginia 1948	U. S. 1948†
Dogs	66	140	7,331
Cats	6	4	538
Foxes	2	1	569
Cattle	6	11	628
Horses	1	1	38
Sheep	—	—	16
Swine	—	1	45
Goats	1	—	5
Misc.*	—	—	288

*Miscellaneous includes coyote, rabbit, mouse, gopher, ground squirrel, rat, squirrel, skunk, wildcat, raccoon, opossum, muskrat, deer. These are infected mainly by dogs, cats and foxes.

†U. S. figures from Bureau of Animal Industry, Department of Agriculture.

The disease of rabies, or hydrophobia, has been known and described in medical literature for thousands of years. In ancient times, when much of life was believed influenced by the stars, the rise of the "Dog Star," Sirius, was thought to herald a period of rabies prevalence which has passed down to us as "Dog Days." We know today, however, that rabies is prominent in every season, but slightly higher in the United States in late winter and spring.

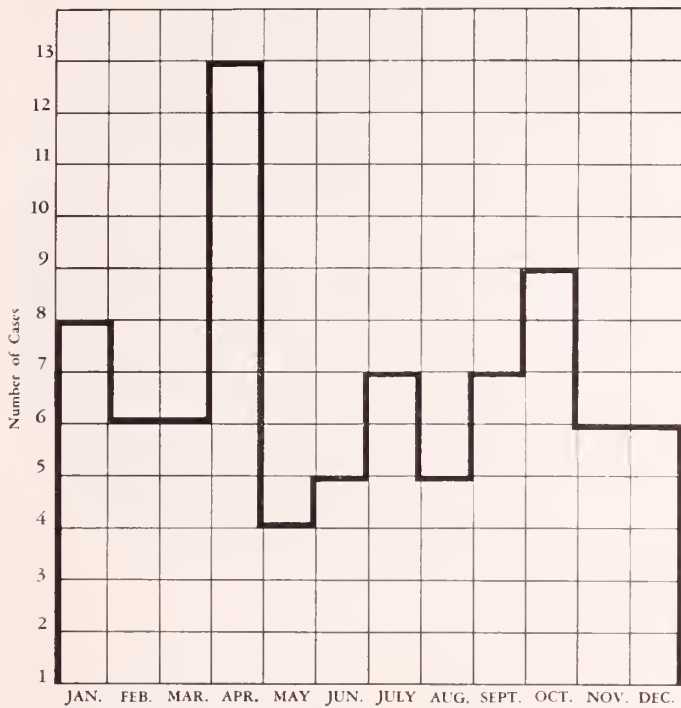
Before 1700, rabies was found primarily among wolves, foxes, and wild dogs. Among domestic dogs, the first epizootic occurred in Italy in 1708. From there, it spread to the rest of the continent and England. Early colonists brought diseased dogs and possibly rats to America, and rabies was reported first in Virginia in 1753, then in North Carolina in 1762. The disease spread to New England by 1785, to most Eastern territory by 1860, and to California by 1899.

Today, the New England states and the Northwestern states, including Washington, Oregon, Montana, Idaho, Nevada, Utah, Wyoming, Colorado, North Dakota, South Dakota, Nebraska, and Minnesota, are relatively free of rabies. Highest rates are concentrated in the Eastern, Central, Southeastern, and Southwestern states.

In Virginia, rabies is most prevalent in the southwestern counties, with the highest incidences reported in Lee, Scott, Smyth, and Washington counties, the four of which reported a total of 52 of the 82 cases reported for the State last year. Of the State's 100 counties, 74, chiefly in the northern and central parts, reported no rabies in 1949. Sixty-two counties reported none for the past two years; 54 reported none for the past three years, and 44 have remained rabies free four years or longer. Only four cities, Danville, Lynchburg, Richmond, and Norfolk, have found rabies in the past four years, and none of these reported any cases in 1949.

There is no indication that any regular progress is being made in controlling rabies country-wide. In some cities, counties, and states, dog licensing, quarantine, and vaccination have pulled down the rabies rate locally for a time. But such programs are begun usually only after a serious outbreak or a human fatality, and they soon lose public interest and support.

It is difficult to estimate the wild game loss which may be blamed on rabies. Reported figures, of course, indicate only a provable minimum, and chances are very much against detecting rabies in wild animals, because the brain of each animal must be examined in a laboratory to determine if the animal died of rabies.



Popular opinion holds rabies as a "warm weather" disease, but this graph of Virginia's 1949 cases shows an all year long occurrence.

Provable wild-animal rabies in this country is confined mostly to foxes. Widespread fox epizootics occurred in Massachusetts in 1812, in Alabama in 1890, and in Alaska in 1915. In 1915, also, coyotes as well as foxes, bobcats, and skunks became widely infected in Nevada, Oregon, and Colorado.

Since 1940, major outbreaks of fox rabies have occurred in Georgia, Alabama, Mississippi, Louisiana, North Carolina, and South Carolina. Many of these states normally depend for fox control on shooting and trapping programs planned jointly by state and federal agencies. During the war, however, with hunters and trappers away, foxes became over-abundant and were infected by stray and self-hunting dogs, so the fox rabies problem again is with us.

Rabies is caused by a virus so small that 254,000 end-to-end would make only an inch. This virus, once implanted in nerve tissue, propagates itself until it takes over the brain and the entire nervous system. No case is on record where eating meat or drinking milk of an infected animal has caused rabies. The virus must be passed on through a bite or wound to perpetuate the disease.

Rabies usually is spoken of as occurring in two forms—"furious" and "dumb." It is but one disease, however.

What commonly is called "furious rabies" is a stage of the disease which might or might not develop, depending on the amount of virus originally deposited in the wound and on the distance of the

wound from the brain. If the victim does not die in the throes of a spastic fit while in this stage, he always passes into the "dumb," paralytic prelude to certain death.

A dog victim bitten close to his head, for example, in about two weeks begins to mope around and show signs of drowsiness, perhaps slinking away into hiding. His bark becomes hoarse from growing paralysis of his lower jaw, tongue, and voice box. He will not eat or drink (hence the old name "hydrophobia," or fear-of-water). He will not appear irritable or try to bite anyone unless provoked. Within two or three days, his paralysis will have increased to where he will fall into a coma and die quietly.

A dog bitten by a rabid animal in a leg or hip, on the other hand, may for about two weeks show no unusual signs except possibly a whipped look or a tendency to be more affectionate. Gradually, however, toward the end of this period, he becomes jumpy and excitable. He snaps at the air, and lets out long, hoarse, tortured howls. In a day or two, he becomes vicious. If he be caged, he will try to break from his cage, and may break his teeth or tear his flesh in the effort without apparent feeling. Breaking out, he will run for and attack any moving object, often foaming at the mouth and behaving in the familiar, vicious way that fills the cry "Mad Dog" with terror.

During this time he will not eat food or drink water, but may swallow bits of rock, glass, metal, or other foreign objects.

Within about seven days from the first signs, the dog begins to suffer spastic convulsions which grow worse and worse. During one of these he may die.



Some Virginia cities and counties require vaccination of all dogs each year. This is a good prevention measure.

Surviving them, he will pass on into the deathly paralysis.

The rabid fox behaves much as does the rabid dog. During a "furious" stage, the fox may wander boldly into farm yards, attacking farm animals without fear. Rabid foxes have been known to rush out of the woods and attack automobiles along the highway. Cats infected with rabies very often creep away and die. But when a cat develops the "furious" stage, it becomes particularly vicious and dangerous. Signs of rabies in cattle are bawling and pawing; and otherwise friendly cattle may charge attendants. Rabid horses will show intense itching at the wound, will be nervous and excitable, and will bite stall or manger, sometimes hard enough to break their teeth.

The human victim of rabies usually develops his first signs of restlessness and jumpiness within about 10 days of the time he is bit, although this period may be as long as a year or more. Following these first signs, the horrible progress of the disease is told in increased tremors, spasms, labored breathing, and hallucinations. Sight or mention of water provokes new and more intense convulsions, frothing, and coughing; and the victim cannot eat. Gradually, paralysis comes over his body and he dies, usually about two days after the first signs appeared. One of the most terrible aspects of the disease is that he faces his inevitable death fully conscious and mentally alert to the end.

Not more than 30 to 50 persons die annually in the United States from rabies. However, 500,000 terrorized persons each year report that they have been bitten, 98 percent of them by a dog or cat. Beyond the trouble caused to police, firemen, health officers, and others in rounding up the offending animals, and to laboratory technicians in determining if the animals had rabies, 30,000 of these bite victims take antirabies vaccine treatment. A total of 434 Virginians received the standard 14-dose treatment in the year preceding June 30, 1949.

The treatments are extremely annoying and inconveniencing, and some persons have experienced frightening reactions to them. While there have been no serious accidents in Virginia, nine cases of severe post-vaccinal reaction, including one death, were reported among 5,500 Los Angeles residents treated with similar vaccine during one study.

In spite of all this, however, there is an optimistic side. A rabid animal is infectious for only about four or five days, and only about 50 percent of rabid animals have the virus in their saliva which could cause rabies. Only about one reported bite out of 140 is by a proven rabid animal, and only about 10 to 15 percent of persons bitten by rabid

animals contract rabies. Both man and dog have a certain amount of natural immunity against the disease. In man, bites about the head and face are dangerous, but bites on surfaces covered by clothing seldom prove dangerous.

It is apparent that the only way rabies will be brought under control in any area is through reduction of the stray animal population and of chances for existing animals to be bitten, and through the building up of natural resistance in susceptible animals.

This means (1) rounding up and killing of unclaimed dogs, and (2) close supervision and annual vaccination of owned dogs. The Virginia dog law lays a foundation for such control.

Governing bodies of cities and counties are empowered to require muzzling or confinement of all dogs for as long as 45 days, and to restrict running at large of unvaccinated dogs, with penalties for violation of \$5 to \$25. Three counties which prove the working value of local programs are Halifax, Pittsylvania, and Mecklenburg. These counties cut their rabies incidence from a total of 71 cases in 1948 to a total of three cases in 1949.

Pittsylvania County in September, 1948, passed an ordinance requiring vaccination of all dogs. Public health clinics for this purpose were set up at 91 stations in the county, and printed placards with clinic schedules were posted around each. The State Health Department purchased a good tested vaccine in bulk, and this was distributed to veterinarians locally, who repaid the state out of clinic fees of 75 cents per dog and office fees of one dollar per dog. Certificates of vaccination were provided dog-owners by the veterinarians. During the program, uncontrolled dogs were taken into custody



Worker in State Health Laboratory removing brain from dog suspected of having rabies.

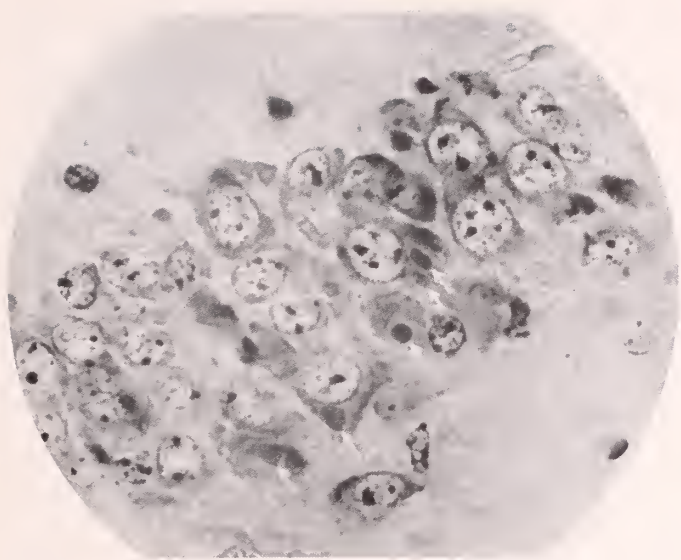


Photo by J. B. Haulenbeck

Arrows point to Negri bodies in the brain cells of mice inoculated with rabies virus.

and strays were eliminated. This program and other similar programs in high incidence areas required hard work and cooperation of many agencies, but it was successful in reducing reported rabies cases from 38 to one in a single season.

As promising as is the present dog vaccination program, a new vaccine announced as this article was being written promises to prove even more effective. Whereas the old vaccine was not 100 percent successful in producing immunity and could not be depended on to insure immunity for more than a year, the new vaccine has shown practically no failures to immunize and apparently has the power to preserve immunity for well over a year.

Under the state dog law, any person bit by a suspected or proven rabid dog may be treated expense free. This and other expenses of rabies control are paid for out of the dog fund made up principally of license fees. Out of this fund, 15 percent must be forwarded annually to the state treasurer. The remainder may be spent for treating persons who have been bitten, for advertising notices, cost of shipping heads to the laboratory for examination, payment of damages to livestock or poultry, or allowances to game wardens. Any dog fund money in excess of \$250 on December 31 may be transferred to the local general fund or used to replenish game.

If rabies is present in the community, every bite or scratch should be looked at with suspicion, but not necessarily alarm. The wound should be cleansed thoroughly with soap and water, and should be bled to remove as much of the virus or saliva as possible from the wound site. A doctor then should be

consulted immediately and told all the circumstances surrounding the bite so that he may decide whether the wound should be cauterized and vaccine treatment be started.

When a dog is suspected of being rabid, whether or not it has bitten anybody, it should not be killed if this can be avoided. It should be locked up alone. If it has rabies, it will die anyway. A physician may decide to administer or withhold rabies vaccine to the bite victim on the strength of his observations, but a positive diagnosis can be made only by laboratory examination of the dog's brain after the dog has died. If the dog lives 14 days after biting, he did not have rabies at the time he bit.

This laboratory examination is made more difficult if animal heads are received damaged or if the dog was killed too soon, so that the tell-tale Negri bodies have not had a chance to show up in brain tissue. If it is necessary to kill the dog, it should be gassed or shot through the heart—never killed by poison or shot through the head. The severed head should be shipped at once to the nearest state laboratory.

Animal heads may not be shipped through the U. S. mail; and special precautions must be taken in shipping by Railway Express. The head should be placed in a metal leakproof container and this packed in ice—never dry ice—inside a second leakproof container. The package must be labelled: "Caution—This package contains the head of an animal suspected of having died of hydrophobia." An additional rule: the package must not be held in an express office over Sunday.

A separate letter should be sent at the same time to the State Health Department with the following information: (1) Species and breed of animal, (2) whether it was in contact with other animals, (3) who, if anyone, was bitten by the animal or exposed to its saliva, (4) place of the bite on the body, how deep a wound, and what treatment was given, (5) whether the animal died or was killed, (6) whether the animal was confined or observed before death and for how long, (7) symptoms of rabies, if any, and (8) history of animal's vaccination for distemper or rabies.

The results of the laboratory examination, when positive, are reported by collect telegram unless otherwise requested, and are confirmed by mail. A report of POSITIVE means that the animal had rabies. A report of NEGATIVE, however, does not necessarily mean that the animal did not have rabies, and administration of rabies vaccine to a bite victim must be decided by the physician on other evidence.

The State Health Department recommends that vaccine be started immediately if (1) the biting animal was caught and appeared to have rabies; (2) the animal, after death, was proven rabid; (3) the animal was killed and, although the laboratory report was negative, was suspected of having rabies, or (4) the animal escaped, but rabies is known to be present in the locality.

Rabies vaccine is not recommended when (1) the only exposure was saliva on unbroken skin; (2) the saliva touched wounds more than a day old covered by an unbroken scab; (3) teeth pressure wounds only were made through unbroken clothing, or (4) the biting animal remains normal for seven days after biting.

Rabies may be controlled effectively in any community if the citizens have the desire to control it. A good program boils down to three clear-cut rules which may be sold to any community if conscientious pet owners, civic leaders, veterinarians, physicians, livestock owners, and public health personnel will take the trouble to interpret them to the public.

These rules are: (1) License all dogs, as an expense defraying measure and as a means of keeping accurate data on dog population and dog ownership. (2) Vaccinate all dogs annually with a tested vaccine approved by the State Health Department. (3) Destroy all stray and ownerless dogs if unclaimed in a reasonable time after they are impounded.

This program is not visionary, nor even theoretical. It is simple, concrete, and workable, and has been proven effective repeatedly in our own Virginia counties. The State Health Department stands ready to assist any county in planning and carrying out a local control ordinance. The next move is up to the people.

WHAT IS WILDLIFE MANAGEMENT?

(Continued from page 17)

very rapidly during the spring and summer months. It will reach a maximum in the fall when the range reaches its maximum carrying capacity. The percentage of increase is greater in proportion when the population is at its lowest. The nearer the total population is to the carrying capacity of the range, the smaller the percent of increase.

Increasing the carrying capacity would be almost useless were it not for nature's power to produce young in numbers far greater than needed to keep up the population levels. Thus, by improving food, cover, and water conditions, it may be possible to have five or six young quail survive for each pair of nesting quail as compared with three or four

survivors for each pair of birds before food and cover conditions were improved. Such an increase in the surviving number of quail would do wonders towards improving quail hunting conditions in Virginia. This is not only possible, but has actually been done on a large number of farms in Virginia which have put in food and cover plantings to increase the carrying capacity of their land.

The best possible land use is that which produces the greatest benefit for the people as a whole, meanwhile conserving and improving the soil over the years. Throughout Virginia, the pattern of land use varies within each region or locality, a field here in cultivation, a hillside in trees, a wide fertile valley in grass, or a stream or ditch bank bordered with shrubs or trees. With a little planning and foresight, the carrying capacity of this land, from a wildlife point of view, might be increased several fold.

Fortunately, soil fertility may be built up or conserved and land can be brought into a better balance with nature. Good game management is generally good soil management, and anything that helps conserve the soil will in the long run benefit wildlife. Game abundance can only be accomplished in terms of land management, and, in turn, plant management. The road to better land management is through better land-use practices. If all of our land in Virginia were put to that use for which it was best suited, there would be few game management problems. With the high reproductive power that most wild species possess, wildlife could take care of itself. By restoring soil fertility, and by wise farming and forestry practices which provide more and better food and cover for wildlife, we can help nature increase the carrying capacity of our farms, forests, streams, and marshes. At the same time we will be providing a more abundant life for ourselves and for generations to follow.

ERRATUM:

In the last issue of *Virginia Wildlife* the article "Virginia's Elk Herds" makes reference to the Blue Ridge Parkway and the Skyline Drive. Our attention has been called to the fact that these are two entirely separate and distinct areas of the National Park Service. The Skyline Drive is exclusively within the geographic boundary of the Shenandoah National Park. The Blue Ridge Parkway, which joins the park at its southern terminus at Rockfish Gap, is outside of the park area proper, and is maintained as an individual and separate geographic and administrative unit.

Field Force Notes

Lynchburg Izaak Walton League Chapter Gets Charter

The state of Virginia's largest chapter of the Izaak Walton League was formally incorporated at a recent meeting when a charter was presented to members of the Lynchburg chapter at Fort Hill Club.

Fifty-two new members were initiated at the same meeting, bringing the membership to over 400. Initiation climaxed a concerted membership drive by the club.

C. I. Van Cleve who had been president of the club until the incorporation was re-elected under the new charter rules.

The club also voted to purchase a 171 acre tract of land to be used for conservation practices, a lake, skeet club, and other recreational activities.



Photo by Kesteloo

James Anderson, 1949 Essay Contest Winner receives prize from Governor Battle. Commission Executive Director I. T. Quinn looks on.

4th Annual Essay Contest Planned

The Game Commission and the Virginia Division of the Izaak Walton League have agreed to cooperate in sponsoring the Fourth Annual Wildlife Essay Contest for Virginia Schools in 1950.

Because it was felt that the contest was an important medium in disseminating conservation knowledge to the youth of Virginia, the Commission voted to put up \$500 to be used as prize money in the contest. The Izaak Walton League also agreed to furnish \$500 toward the prizes, making a total of \$1,000 for this purpose.

AUGUST, 1950

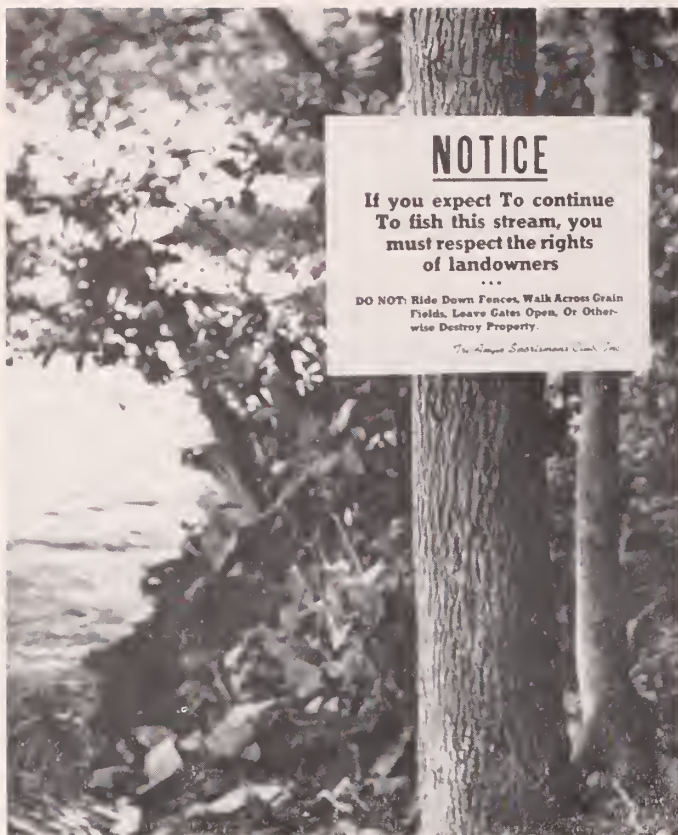


End of the trail for Bruin! V.P.I.'s bear never made it back to the mountains.

Bear Uses Head to Get in College

On Monday, June 17, a black bear put in an appearance at one of the trailer camps of the V.P.I. campus. Several attempts to herd this wild animal back to the mountains only resulted in its being driven through the trailer camp several times, then through the stadium, and eventually through the main section of the campus and town. Personnel of the Virginia Cooperative Wildlife Research Unit congratulated themselves on having gotten this animal out of town with no one shooting him or with no one of the multitude shooting himself. However, as soon as they arrived back at the Unit offices, word was received that this bear had been shot by a farmer living about a mile and a half north of Blacksburg. The skull of this animal wound up in the Unit collection where it has excited a great deal of interest.

Many of the townspeople regretted that this bear was shot and what action, if any, will be taken as a result of this bear being killed has not been decided as yet.



One of the signs posted on Virginia trout streams by the Tri-Angle Club of Bluefield.

Club Cooperation

According to Richard H. Cross, district game biologist of Roanoke, the Tri-Angle Club of Bluefield has taken a very keen interest in the cooperative forest game management program in Bland and Tazewell Counties, Virginia, and in Mercer County, West Virginia.

The club has assisted game technicians actively in the trout restocking program and in the release of wild turkeys in the region.

This past spring the group placed a thousand posters on some 20 trout streams, calling attention to anglers to respect the rights of landowners while fishing.

Haysi Sportsmen's Club Has Fish Fry at Newly Completed Lake

Over two hundred and fifty members and guests of the Haysi Sportsmen's Club held a fish fry recently to celebrate the second anniversary of the organization.

The celebration was held at the new four acre lake recently constructed by the club. Over 200 pounds of fish were cooked for the hungry sportsmen.

In addition to the bountiful dinner, a program was staged in which several speakers extolled the work that has been done by the club and predicted giant strides in the conservation of wildlife and natural resources in Dickenson County.

Speeding Traffic Takes Heavy Toll of Animal Life

Five Thousand Three Hundred and Eighty-eight rabbits were killed by motorists on Virginia's highways during the first 6 months of 1950 according to a report released by the State Highway Department. This number was the total handled by the department workers in clearing the roads of dead animals. Hundreds of other rabbits were undoubtedly hit and thrown off the road, or were killed and torn to bits by heavy traffic before the highway crews found them, so that the actual figure is probably much higher.

In addition to the rabbit figure, 2,106 skunks, 5,818 cats and 4,709 dogs were also removed by the crews. No figures were given for opossum, raccoon or squirrels, all of which are frequent motor victims, but this drain of wildlife in all species makes a huge inroad in the Game Commission's attempt at restoration.



Photos by Kesteloo

Virginia's highways are death traps to wildlife. Hundreds of animals are killed every night.

Crows Prove Heavy Predators on Wild Turkey Eggs

The Game Commission of Pennsylvania, a state that uses a wild pen mating system similar to Virginia's, reports that crows have proven themselves a predation factor in the successful nesting of wild turkeys.

Thirty wild turkeys were placed in a wild nesting area in March and throughout the nesting season 523 eggs were collected. However, crows destroyed an additional 123 eggs during the same period. In other words, one-sixth of the possible turkey crop was ruined by these predators.

No study has been made in Virginia on this problem, but it would be interesting to find out if the crow is as much trouble here as in Pennsylvania.



SENATOR ROBERTSON THREATENS PUBLICITY FOR THOSE FLOUTING GAME LAW

Senator J. Willis Roberston of Virginia recently threatened to expose to the Senate those Federal officials who fail to enforce game laws.

In a statement for the Congressional Record, he singled out as "a notable example" District Judge William C. Coleman, of Baltimore.

Coleman, he said, was quoted by Conservation News, a sportsmen's magazine, as having told a recent meeting at Annapolis, Md., that he declined to consider 67 charges of baiting ducks, which is prohibited under executive order.

The magazine, he said, quoted Judge Coleman as favoring baiting ducks, a longer shooting season and a larger bag limit.

"If this notice is insufficient," Roberston said, "I shall, at some future time, present to the Senate a detailed account of every violation in which a Federal judge ignores his oath of office, ignores the Constitution, ignores statutory law and metes out lynch law to the ducks and geese."

* * *

VIRGINIA BIRDS ON FEDERAL PROTECTION LIST

Virginia's state bird, the cardinal, and one of her shore birds, the Clapper rail, appear on the new list of migratory bird species that are federally regulated and protected.

The new list includes many revisions in the common names of birds, and drops a few—including the Labrador duck, the great auk, and the passenger pigeon—which are now extinct. The important changes, however, are the additions of birds which recent investigations have proved to be migratory under the terms of the Convention with Great Britain, or which have been declared migratory according to the terminology of the Mexican Convention.

Conventions with Great Britain and Mexico protect numerous species of birds of certain families. The terminology of the conventions clearly indi-

cates that all birds which are members of the families listed—and occur in the United States and either Mexico or Canada—are under the protection of Federal law.

* * *

CONSERVATION PLAQUES AVAILABLE

A new conservation plaque for display purposes has been developed by William Kerr of Warren, Ohio. The plaque is 32 inches by 32 inches in size and is finished in a rich gold background with a brilliant four color reproduction in oil of the conservation pledge. It is made of heavy display board and should be very suitable for clubs and associations to use in clubroom display or in exhibit work. They are moderately priced and should last a long time with proper handling.

* * *

KELLAM NAMED CONSERVATION GROUP CHIEF

Sidney S. Kellam, Princess Anne County treasurer, was recently appointed State Director of Conservation and Development. He succeeds William A. Wright, who resigned to campaign for Congress in the First District.

The new Director of Conservation and Development is a member of a family of 12 sons and one daughter. He was born at Princess Anne Courthouse village on July 6, 1903, and is the son of the late A. E. Kellam, who was clerk of the county for 20 years, and Mrs. Clara O. Kellam. Mr. Kellam was elected treasurer in November 1931, and since then has been re-elected without opposition.

Mr. Kellam is a Methodist, a past president of the Virginia Beach Rotary Club, a member of the Commonwealth Club of Richmond, the Princess Anne Masonic lodge, and various other organizations.

He served as campaign manager for Governor Battle in both the primary and the general elections last fall, and is the chairman of the Second District Democratic committee.

Mr. Kellam is married to the former Odie Butt, of Princess Anne. They have two daughters, Jane 13 and Elizabeth Anne 5.



for
Students
Teachers
Parents



Richmond News-Leader Photo



Two forms of sport! Play by the rules in every game!

SPORTSMANSHIP

Every boy and girl in America knows the meaning of the word "sportsmanship." It's part and parcel of the way we're brought up. We go to athletic contests and we cheer for the underdog, we condemn players and teams who engage in shady practices or dirty playing. As Americans we just don't like it.

Now have you ever stopped to think that hunting and fishing are two of the most popular sports in America? More Americans hunt and fish for fun than engage in any other form of outdoor recreation.

All forms of sport have their rules and regulations and hunting and fishing are no exceptions. These rules and regulations are necessary in order to make a fair contest, whether the game is football, baseball, golf, tennis, or hunting or fishing.

Too many people go afield and forget these facts. They become aware only of the meat value of the game or fish and lose all the fun

and thrill of the pursuit. To an outdoorsman who is a real sportsman, there is just as big a thrill in the elusive buck who gets away or in the big bass who manages to throw the plug with a magnificent jump, as there is in bagging and bringing home his quarry.

Of course there's a thrill in winning, but we don't play just for the victory. How many times have you played in a good close-fought game of baseball or football and lost by a close margin? Even in losing, the game itself was fun.

Again as in organized sports, hunting and fishing have their refereeing officials. Of course we don't call them umpires or referees, but still their job has a lot in common with the arbiters of the team sports. It is up to these wardens to enforce the rules and regulations under which the outdoor sports may flourish and be enjoyed.

The average American boy or girl would not dream of cheating or breaking the rules in an organized sport. It just isn't the way

we have been brought up.

By the same token then, an unorganized form of sport such as hunting or fishing should have equally high standing in our code of ethics. It's fairly easy to play the game and obey the rules when the crowd is watching you, but the real test of sportsmanship is in how we behave when we're alone.

Hunting and fishing are part of the American heritage just as good sportsmanship is part of the American character. The best way to perpetuate the first is to accentuate the second. *Don't* be a game hog, always trying for the bag limit. After all, we don't try to run up ridiculously high scores in other sports.

Don't hunt or fish out of season—we have "time out" in other games too.

Don't break the hunting and fishing laws that are the rules of the game. No sport is fun if the rules that maintain it are ignored or discarded.

Work with your county warden and interested sportsmen's groups in selling the sporting concept of hunting and fishing. Put across the idea that the real enjoyment in the outdoor sports doesn't come from how much game or fish an individual can put on the table, but in getting out for a day in the open and in playing the game the way it should be played.

Teach your friends to follow the rules and treat the out-of-door pastimes as sports with a code of rules, both written and unwritten, that adds to the enjoyment of the game.

Someday perhaps, if they learn to see things in that way, they'll agree with me that nothing beats a good baseball or football game—unless it's hunting or fishing.



Yancey Gordon, caretaker at Lake Gordon inspects licenses the night before opening day.



Opening morning! The surface mist can't hide that first day crowd on the shore!

Lake Gordon

Silver surfaced and still in the early morning sunlight, the Commission's new fish pond in Mecklenburg county proved a Mecca for Old Dominion Anglers on opening day of the bass season.

Built in an area where fishing water was deficient, the new pond supplied top notch sport to the eager Izaak Waltons.



A quiet backwater holds some cane pole and boat fishermen in search of bass.

Photos by Kesteloo



An opening day catch is checked at the boathouse.



Top fish of the day! Six pounds of largemouth bass.



Fishery biologist Dean Rosebery examines a fish.

LARGE SHARP - SHINNED
HAWKS RESEMBLE SMALL
COOPERS HAWKS BUT DO
NOT HAVE ROUNDED TAILS



THE COOPERS HAWK HAS
A ROUNDED TAIL AND IS
SMALLER THAN A CROW

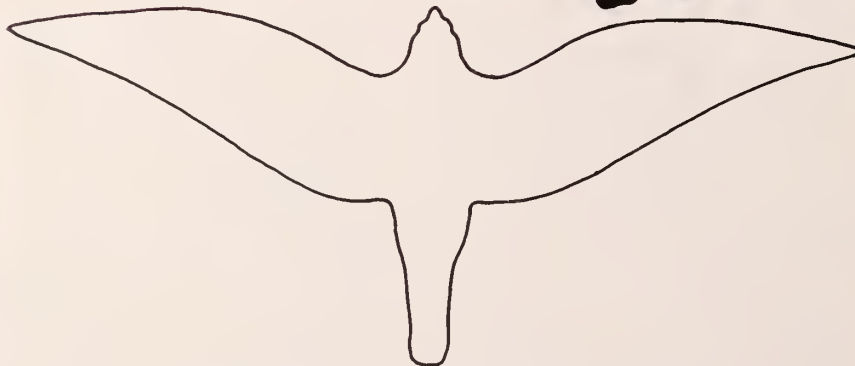


SHORT WINGED

HAWKS

POINTED WINGED

FALCON



SPARROW HAWKS ARE ONLY
ELEVEN INCHES IN LENGTH

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